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Biodistribution in Sarcoma 180-Bearing Mice of N-Succinyl-Chitosan Nanoparticles for Tumor Targeting

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***SUMMARY*. In the present study, we sought to systemically evaluate the biodistribution and the tumor-accumulation of *N*-succinyl-chitosan nanoparticles (Suc-Chi-NPs, 200 nm in diameter) in model tumor-bearing mice and also the binding of Suc-Chi-NPs to k562 cells was evaluated by flow cytometry. *In vitro* studies showed that all Suc-Chi-NPs displayed high affinity to k562 cells. After intravenous injection of Suc-Chi-NPs via the tail vein, a small amount of Suc-Chi-NPs was found in liver and spleen for 4 days, whereas a negligible quantity was detected in heart and lung. The distributed amount of Suc-Chi-NPs in blood was as a high level throughout the 4 days. The distributed amount of Suc-Chi-NPs (> 15 % of dose) was accumulated at 1 day and gradually increased in tumor, as blood circulation time increased. This result suggests that Suc-Chi-NPs accumulate passively in the tumor tissue due to the enhanced permeability and retention (EPR) effect, following intravenous administration. These findings revealed the promising potential of Suc-Chi-NPs on the basis of Suc-Chi as a carrier for cancer therapy.**

KEY-WORDS: Biodistribution, Nanoparticles, N-succinyl-chitosan, Tumor targeting.

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